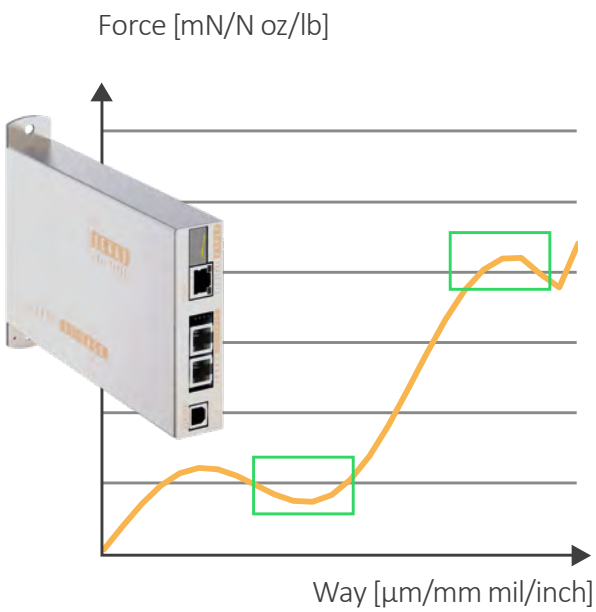
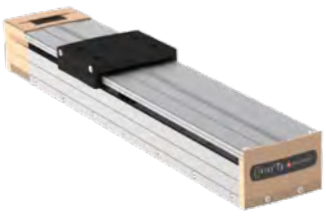
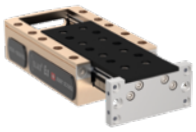
JENNY SCIENCE

moving precisely, within tight space







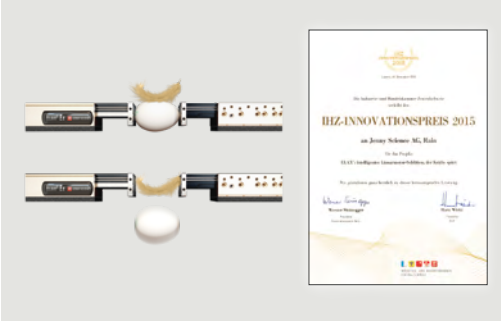
Compact linear motor axes, new with integrated servo controller, hollow shaft motors and intelligent, web-based servo controllers

Jenny Science – a success story

As an ambitious, international family business, Jenny Science is today a leading component manufacturer for industrial automation. With over 70 employees at its headquarters in Rain, Switzerland, we design and manufacture compact linear motor axes, electric linear motor slides, hollow shaft servo motors and intelligent, web-based servo controllers for automation customers around the world.

2022 «GO» and the axis moves!

INTAX®, the world's first linear motor axis with integrated servo drive; everything runs automatically: Simply connect the USB-C cable and enter «run.Webmotion» in Windows Explorer to open WebMotion®. Click on «GO» and the axis runs.



2015 IHZ Innovation Award for Forceteq®

Jenny Science was selected for the IHZ Innovation Award for the Forceteq® force measuring technology, which senses forces in linear motor axes; executing movements and simultaneously monitoring them.

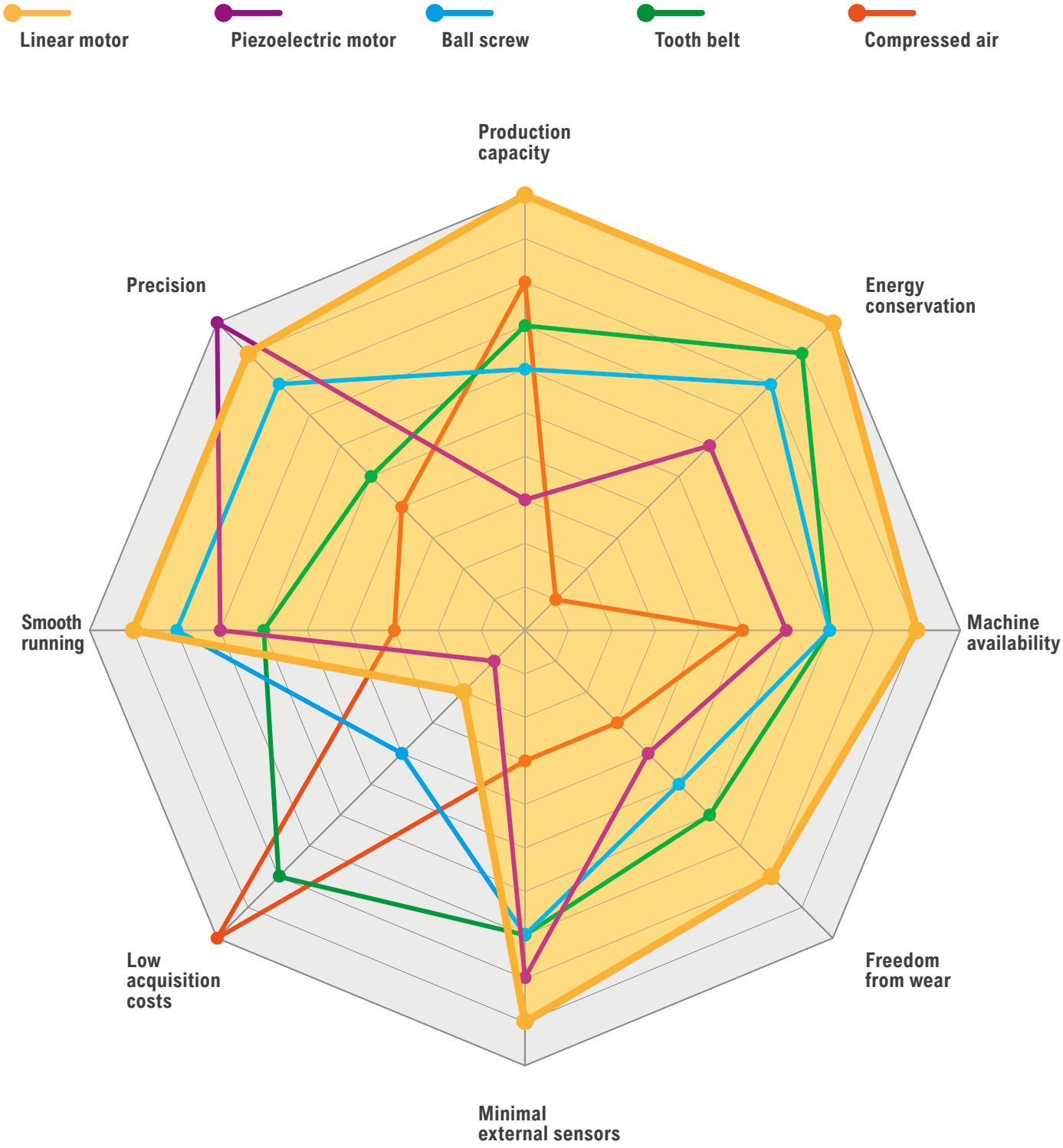
1998 Winner of Technology Location Switzerland for JENYTEC®

The ultra-compact and multi-functional JENYTEC® servo controllers are distinguished by the Technology Location panel of Switzerland.The product was selected for its compact construction and innovative content.

1994 De Vigier Award for JENYMO®

Founder Alois Jenny wins the W.A. de Vigier foundation sponsorship award for the world's first bicycle dynamo with integrated standstill light. The JENYMO® bicycle dynamo has fully integrated standstill light electronics and a rechargeable battery.

Various drive types for linear movements in comparison



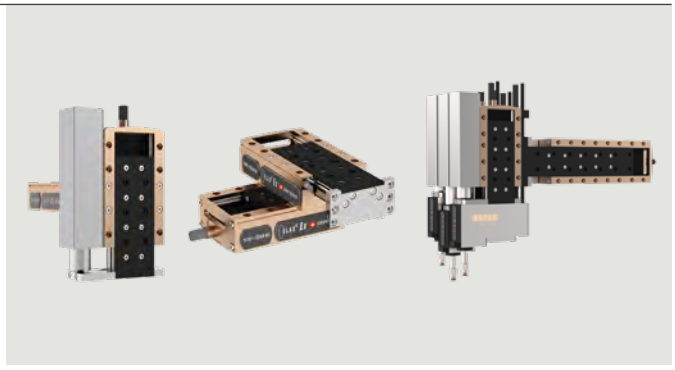
USPs of Linear and Rotary Motor Axes from Jenny Science

Compact dimensions and lightweight construction

This allows you to build your machines smaller, saving space, especially with the INTAX® linear motor axis with integrated servo controller, thus achieving higher productivity within the same production area.
Especially for longer strokes, the installation space required for Jenny Science linear motor axes is very small in relation to the stroke. With the lightweight design, less mass is set in motion. This means shorter cycle times, less vibration, noise, and energy consumption.

Modular construction kit for your standardization

Our flexible, well-designed modular system is truly unique in the market. With standardized linear and rotary motors from Jenny Science, you can build your automation systems more compactly, more lightweight, and in less time. This reduces costs in development, commissioning, and spare parts inventory.



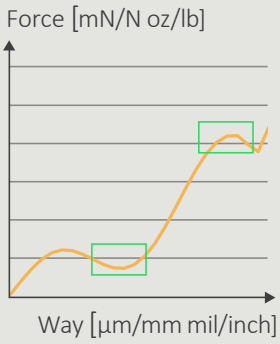
Web browser operating menu

Simply enter the IP address in your web browser, and Web-Motion® is ready to go. No software installation on your laptop or PC, and no registration required. Commissioning a servo axis has never been easier.

Forceteq® force measurement technology

Forceteq® Basic is fully integrated into the XENAX® servo controller, measuring force via motor current. This simplifies setup, reduces costs, and enhances reliability by eliminating the need for a separate sensor. Forceteq® Pro uses an external DMS force sensor and the Signateq® measuring amplifier for precise measurements. It transfers force values directly to the XENAX® controller, ensuring high accuracy without needing an external evaluation box.

- **Force-stroke diagram with monitoring**
- **Force limitation**
- **Power pre-control**



PLC bus communication

Easy integration of the market-leading Ethernet bus protocols such as EtherCAT, Profinet, Ethernet/IP, Powerlink and CANopen. With the supplied libraries, your machine programmers can work in the familiar development environment of the PLC and do not need any special knowledge. Furthermore, a complete ASCII command set is also available to operate the axes via the standard TCIP/IP socket or via COM interface.

EtherCAT · EtherNet/IP ODVA · CANopen · PROFINET IRT (Isochrone Real Time) · Ethernet TCP/IP · ETHERNET POWERLINK

Automatic motor recognition

All Jenny Science linear and rotary axes are automatically recognized and parameterized by the XENAX® Servocontroller. Commissioning, testing and fine tuning are then performed using the intuitive, HTML 5-based WebMotion® operating menu and web browser. The programming for a possible «stand alone operation» is also carried out via web browser.

Functional safety: SIL 2, PL d, Cat. 3

To guarantee the functional safety of the direct drive axes, the XENAX® Xvi 75V8S servo controller can be equipped with the Safety Motion Unit (SMU). This makes the various TÜV-certified safety functions STO, SS1, SS2 and SLS available. Furthermore, the axes can also be supplied in a UL certified version.

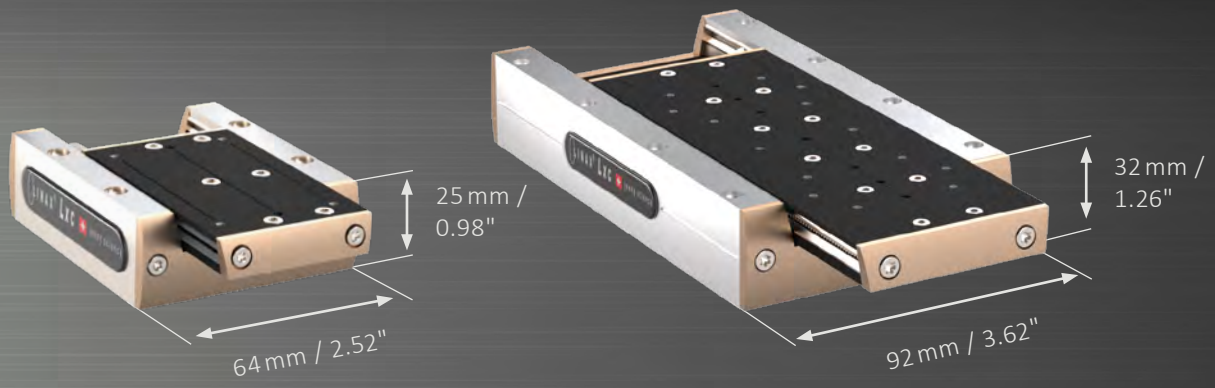
TÜV SÜD · UL

XENAX® Xvi Servo controller

Xvi 75V8S · Xvi 48V8

· Easy commissioning and programming with WebMotion® via any HTML5 web browser
· Automatic recognition and parameterization of JSc linear motor axes and servo motors
· High-end control technology with continuous transition from position control to force control and vice versa
· Interfaces and libraries for modern PLC Ethernet bus protocols
· Safety functionalities certified according to TÜV, UL certified versions
· Compact and everything inside: Safety, Web server, TCP/IP, Ethernet fieldbus modules, Master-Slave

Patented force monitoring Forceteq® basic (current-based) and Forceteq® pro (with strain gauge sensor)
Integrated web server with WebMotion® operator menu via HTML5 web browser
Position controller <-> force controller, S-curve trajectory generator
Xvi 75V8S: 12 digital inputs and 8 outputs with 24V Xvi 48V8: 4 digital inputs and 2 outputs with 24V
Fully programmable for stand-alone handling operations with Lead and Follower function up to 4 axes
Xvi 75V8S: separate power inputs for Logic (24V) and Power Stage (24V–75V) Xvi 48V8: separate power inputs for Logic (24V) and Power Stage (24V–48V)



LINAX® Lxc Linear motor axes

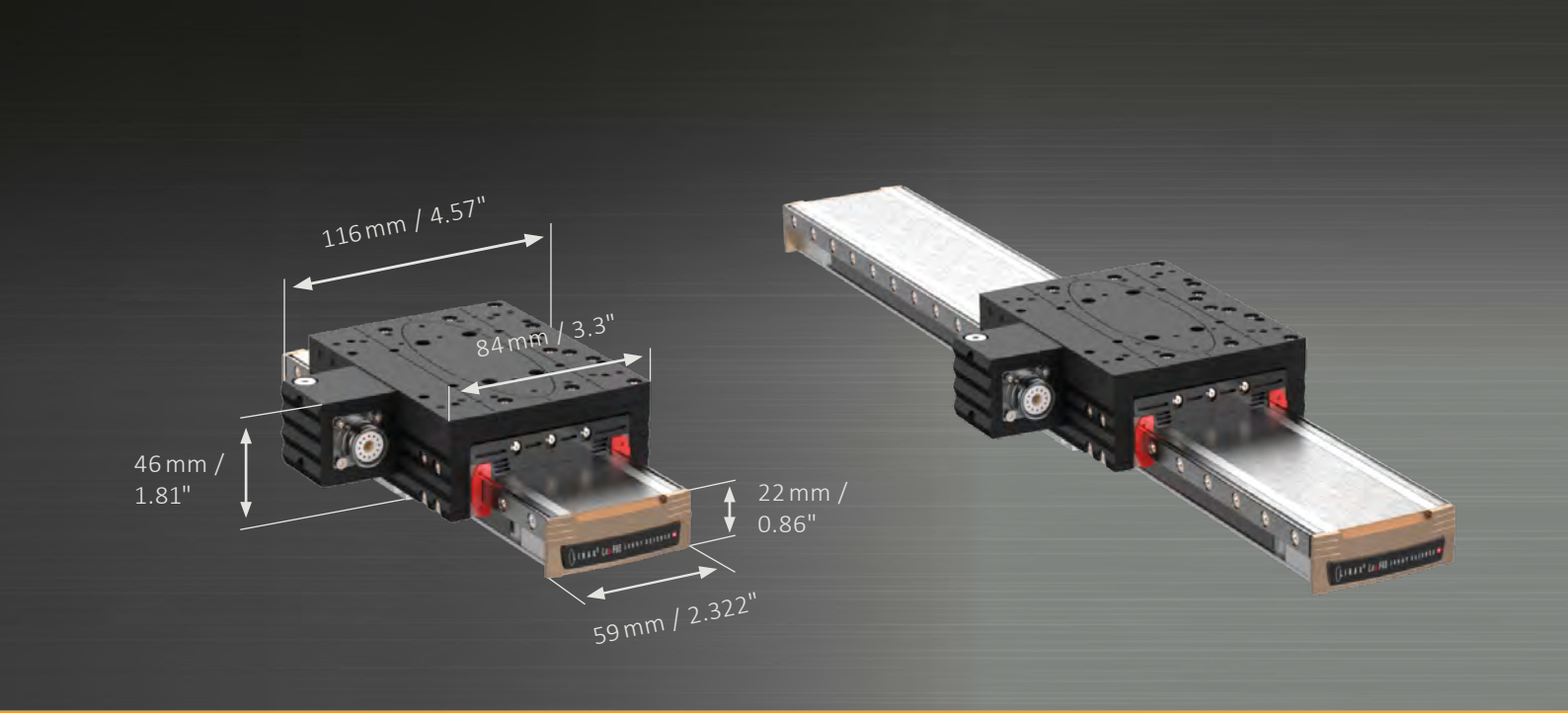
Lxc = compact

· Patented monoblock construction
· No cables moving
· Excellent performance/volume ratio
· Safety integrity Level 2, PL d, CAT. 3 together with XENAX® servo drive

LINAX®	Position Accuracy [µm]	
Lxc	optical 0.1	optical 1
	+/- 0.5	+/- 1.5

LINAX®	Stroke [mm] (in)	L Install. [mm] (in)	Force Fn/Fp [N] (lbf)	Weight Carriage /Total [g] (lbs)
Lxc 44F08[1)]	44 (1.73)	78 (3.07)	8/24 (1.79/5.39)	130/350 (0.28/0.77)
Lxc 85F10[1)]	85 (3.34)	144 (5.66)	10/30 (2.24/6.74)	230/650 (0.50/1.43)
Lxc 135F10	135 (5.31)	194 (7.63)	10/30 (2.24/6.74)	320/880 (0.70/1.94)
Lxc 230F10	230 (9.05)	290 (11.41)	10/30 (2.24/6.74)	450/1200 (0.99/2.64)
Lxc 80F40[1)]	80 (3.14)	169 (6.65)	40/114 (8.99/25.62)	520/1470 (1.14/3.24)
Lxc 176F40[1)]	176 (6.92)	265 (10.43)	40/114 (8.99/25.62)	750/2150 (1.65/4.73)
Lxc 272F40	272 (10.70)	361 (14.21)	40/114 (8.99/25.62)	1050/2800 (2.31/6.17)

[1)] available with weight compensation of up to 3 kg (6.61 lbs)/6 kg (13.22 lbs)



NEW LINAX® Lxu F60S Linear motor axes

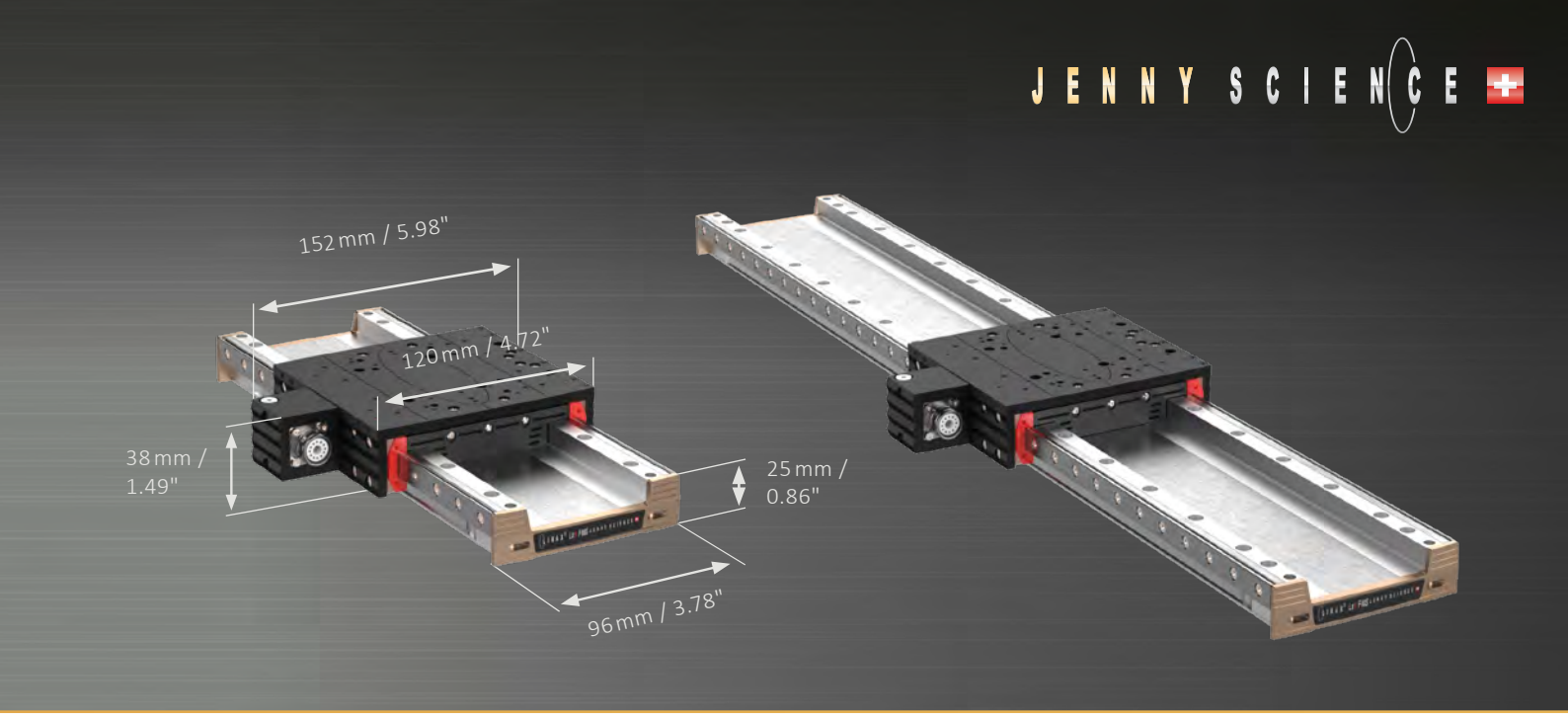
Lxu = universal

- **Absolute measuring system**
- **Single cable solution**
- 3 installation options: carriage/ground plate/front flange
- 4 through holes for flexible installation
- Safety Integrity Level 2, PL d, CAT. 3 together with XENAX® servo controller

LINAX®	Force Fn/Fp [N] (lbf)	Weight Carriage [g] (lbs)	Position Accuracy [µm]		
Lxu F60S	60/180 (13.48/40.46)	950 (2.09)	optical 0.1	optical 1	magnetic 1
			+/- 0.5	+/- 1.5	+/- 2

LINAX®	Stroke [mm] (in)	L Install. [mm] (in)	Weight Total [g] (lbs)
Lxu 40F60S[1)]	40 (1.57)	170 (6.69)	1700 (3.74)
Lxu 80F60S[1)]	80 (3.14)	210 (8.26)	1900 (4.18)
Lxu 160F60S[1)]	160 (6.29)	290 (11.41)	2200 (4.85)
Lxu 240F60S	240 (9.44)	370 (14.56)	2600 (5.73)
Lxu 320F60S	320 (12.59)	450 (17.71)	2900 (6.39)

[1)] available with weight compensation of up to 6 kg (13.22 lbs)



NEW LINAX® Lxs F60S Linear motor axes

Lxs = shuttle

- **Absolute measuring system**
- **Single cable solution**
- Long strokes up to 1600 mm (62.99 in)
- Small height of only 38 mm (1.49 in)
- Wide spaced linear guides for high loads
- Safety Integrity Level 2, PL d, CAT. 3 together with XENAX® servo controller

LINAX®	Force Fn / Fp [N] (lbf)	Weight Carriage [g] (lbs)	Position Accuracy [µm]		
			optical 0.1	optical 1	magnetic 1
Lxs F60S	60 / 180 (13.48 / 40.46)	1000 (2.20)	+/- 0.5	+/- 1.5	+/- 2

LINAX®	Stroke [mm] (in)	L Install. [mm] (in)	Weight Total [g] (lbs)
Lxs 160F60S	160 (6.29)	290 (7.48)	2600 (5.73)
Lxs 200F60S	200 (7.87)	330 (12.99)	2800 (6.17)
Lxs 320F60S	320 (12.59)	450 (17.71)	3400 (7.49)
Lxs 400F60S	400 (15.74)	530 (20.86)	3900 (8.59)
Lxs 520F60S	520 (20.47)	650 (25.59)	4500 (9.92)
Lxs 600F60S	600 (23.62)	730 (28.74)	5000 (11.02)
Lxs 800F60S	800 (31.49)	930 (36.61)	6000 (13.22)
Lxs 1000F60S	1000 (39.37)	1130 (44.48)	7200 (15.87)
Lxs 1200F60S	1200 (47.24)	1330 (52.36)	8400 (18.51)
Lxs 1600F60S[1)]	1600 (62.99)	1730 (68.11)	10800 (23.80)

[1)] only available with magnetic measuring system

LINAX® Lxs F120 Linear motor axes

Lxs = shuttle

- **Absolute measuring system**
- **Single cable solution**
- Long strokes up to 2000 mm (78.74 in)
- The possibility of using multiple slides

LINAX®	Force Fn / Fp [N] (lbf)	Weight Carriage [g] (lbs)	Position Accuracy [µm]		
Lxs F120	120 / 300 (27.0 / 67.4)	2300 (5.07)	optical 0.1	optical 1	magnetic 1
			+/- 0.5	+/- 1.5	+/- 2

LINAX®	Stroke [mm] (in)	L Install. [mm] (in)	Weight Total [g] (lbs)
Lxs 80F120	80 (3.15)	243 (9.57)	4700 (10.36)
Lxs 200F120	200 (7.87)	363 (14.29)	5900 (13.00)
Lxs 400F120	400 (15.75)	563 (22.17)	7800 (17.20)
Lxs 520F120	520 (20.47)	683 (26.89)	9000 (19.84)
Lxs 600F120	600 (23.62)	763 (30.04)	9800 (21.61)
Lxs 800F120	800 (31.50)	963 (37.91)	11800 (26.01)
Lxs 1000F120	1000 (39.37)	1163 (45.79)	13700 (30.20)
Lxs 1200F120	1200 (47.24)	1363 (53.66)	15700 (34.61)
Lxs 1600F120	1600 (62.99)	1763 (69.41)	19600 (43.21)
Lxs 2000F120	2000 (78.74)	2163 (85.16)	23500 (51.80)

[1] available with weight compensation of up to 12 kg (26.46 lbs)

BERU 110V110J

Cool Power: Efficient Brake Energy Recovery with the BERU!

Reduced Energy Consumption

The new Brake Energy Recovery Unit (BERU) stores braking energy in capacitors and reuses it instead of converting it to heat. With the BERU, the axis saves energy.

Compact, No Brake Resistors, No Heat

The BERU eliminates the need for traditional brake resistors, keeping the unit cool and requiring fewer capacitors.

Efficient Use of Capacitors

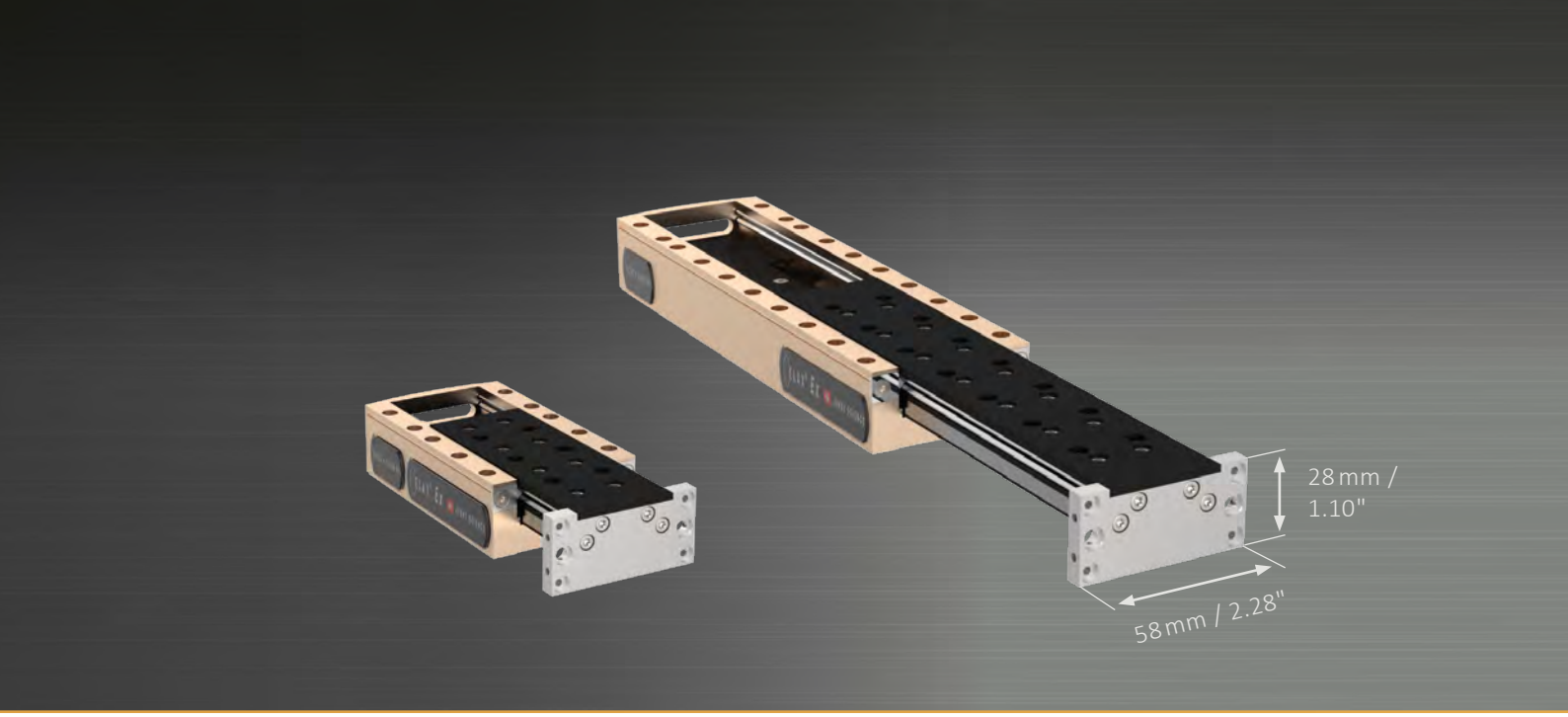
What makes the BERU unique is its ability to discharge capacitors deeper and recharge them higher than the intermediate circuit voltage level. Specially developed, switched step-down and step-up regulators make this possible.

Technological Highlights

- **Intermediate Circuit Voltage:**
  24V - 110V DC

- **Energy Storage:**
  Max. 110 Joules

- **Connections:**
  1x Input from power supply min. 100V 30A
  4x Power output 16A, XENAX®
  4x Logic output 24V 2A, XENAX®



ELAX® Ex Electric slides

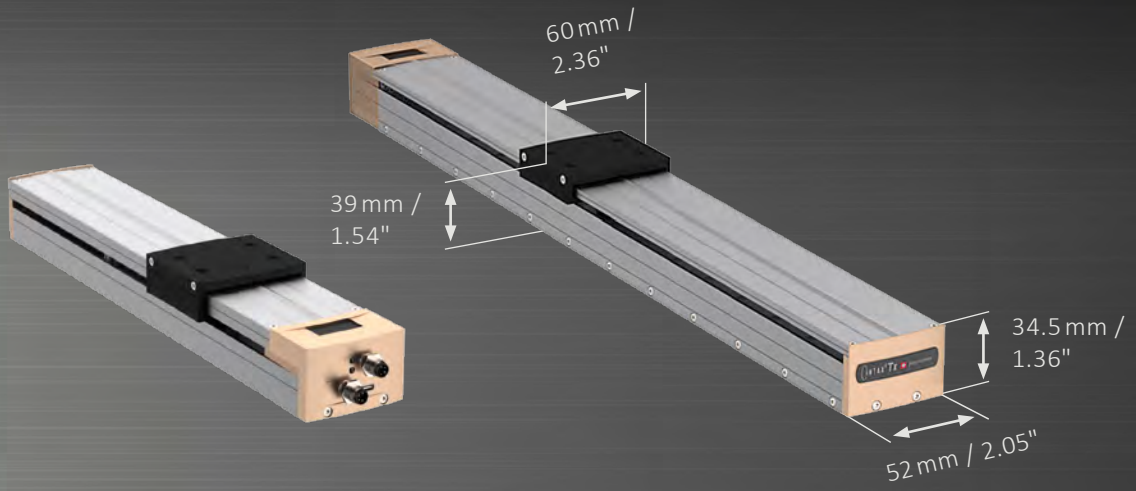
ELAX® Ex

· **Single cable solution**
· Electric slides for fast, precise pick and place units
· Modular design with direct fitting of axes on the front flange
· Safety integrity level 2, PL d, Cat. 3 using XENAX® servo controller

ELAX®	Force Fn / Fp [N] (lbf)	Position Accuracy [µm]
Ex	20/60 (4.49/13.48)	+/- 5

ELAX®	Stroke [mm] (in)	L Install. min. / max. [mm] (in)	Weight Carriage / Total [g] (lbs)
Ex 30F20[1)]	30 (1.18)	109/139 (4.29/5.47)	195/560 (0.42/1.23)
Ex 50F20[1)]	50 (1.96)	129/179 (5.08/7.05)	265/630 (0.58/1.38)
Ex 80F20[1)]	80 (3.14)	177/257 (6.96/10.12)	340/780 (0.74/1.71)
Ex 110F20[1)]	110 (4.33)	207/317 (8.15/12.48)	415/945 (0.91/2.08)
Ex 150F20	150 (5.90)	267/417 (10.51/16.42)	490/1110 (1.08/2.44)

[1)] available with weight compensation of up to 2 kg (4.40 lbs)



INTAX® Tx Linear motor axis

INTAX® = Integrated Servo Controller

- **Integrated servo controller, motor wiring and cable chain**
- **Absolute measurement system with 1µm resolution, no reference drive necessary**
- Two connectors only, one for Ethernet Bus and the other for 24V – 36V DC-Power
- No space is required in the control cabinet

INTAX®	Force Fn / Fp [N] (lbf)	Encoder absolute	Dimensions Carriage W x H [mm] (in)	Weight Carriage [g]	Repetition Accuracy [µm]
Tx	8/24 (1.80/5.40)	1µm abs.	60 x 39 (2.36 x 1.54)	170	+/- 2

INTAX®	Stroke [mm] (in)	L Install. [mm] (in)	Weight Total [g] (lbs)
Tx 50F08	50 (1.97)	149 (5.87)	425 (0.94)
Tx 100F08	100 (3.94)	201 (7.91)	550 (1.21)
Tx 200F08	200 (7.87)	299 (11.77)	800 (1.76)
Tx 400F08	400 (15.75)	500 (19.69)	1300 (2.87)
Tx 600F08	600 (23.62)	700 (27.56)	1800 (3.97)

INTAX® Linear motor axes

A milestone in miniaturization

Introduction

The INTAX® linear motor axis pushes the boundaries of miniaturization and demonstrates what is technologically feasible today. It is the only solution on the market that integrates a fully integrated servo controller into a linear motor axis.

What`s behind it?

· **Plug & Play:**
Connect the USB-C cable and open WebMotion® in the web browser.

· **Immediate Start:**
Click the «Quick Start» button and the axis moves. No download, no installation, no license codes.

Technological Highlights

· **Integrated Servo Controller:**
With a web server and an HTML5-based WebMotion® interface for easy and intuitive operation.

· **Ethernet Fieldbus Communication:**
Supports EtherCAT, Ethernet I/P, and Profinet. Together with PLCopen® libraries, this allows for quick and seamless integration into your systems, saving valuable time.

· **Absolute Positioning:**
The linear measurement system enables an immediate start without the need for homing, increasing efficiency and pro ductivity.

Design and Miniaturization

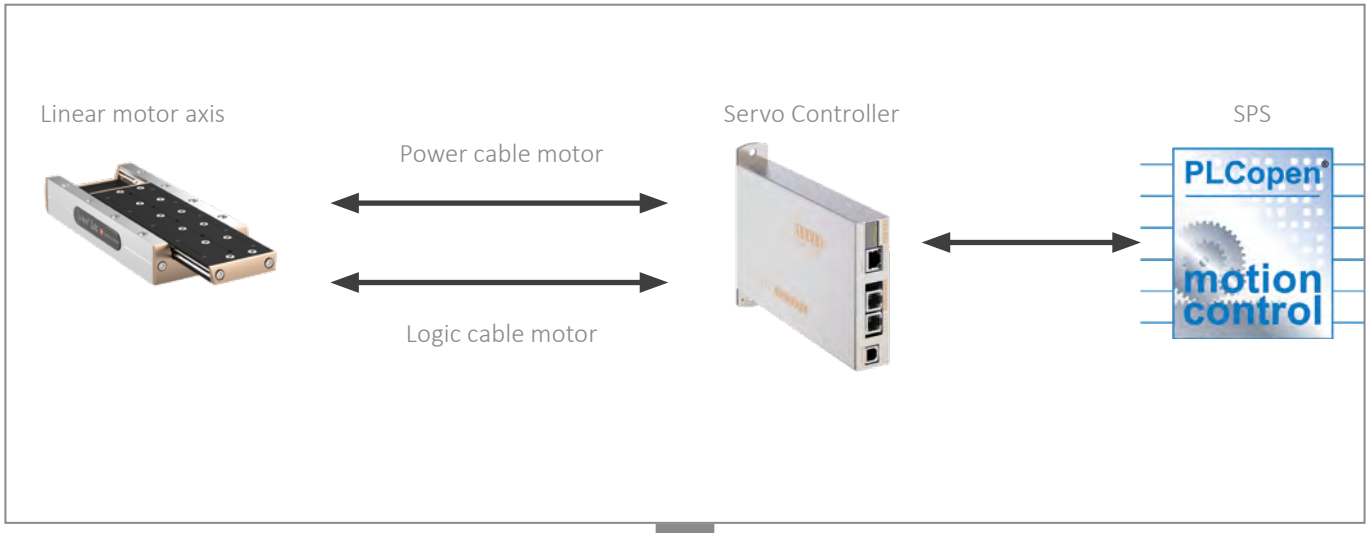
· **Compact Design:**
With a web server and an HTML5-based WebMotion® interface for easy and intuitive operation.

· **Space-saving:**
No additional wiring required, saving labor, costs and space.

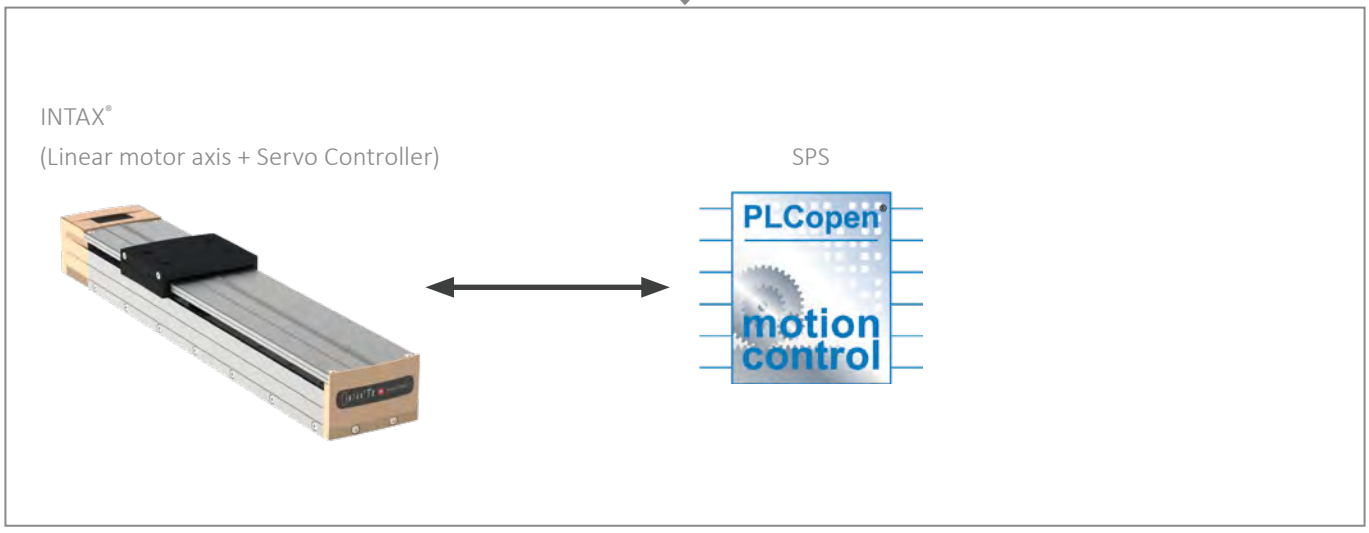
Safety

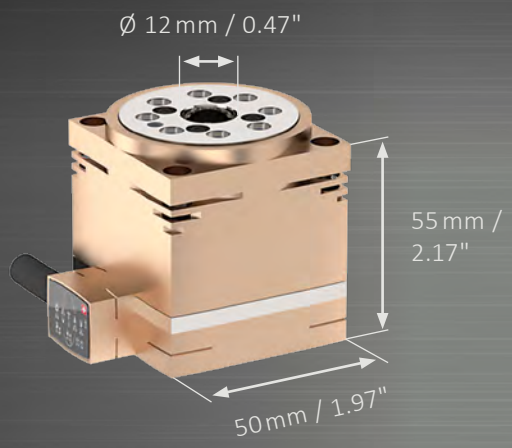
· **STO Functionality:**
In the event of a power stage interruption, communication is maintained as the power supply for the controller and power stage is separated.

Previously



New with INTAX®





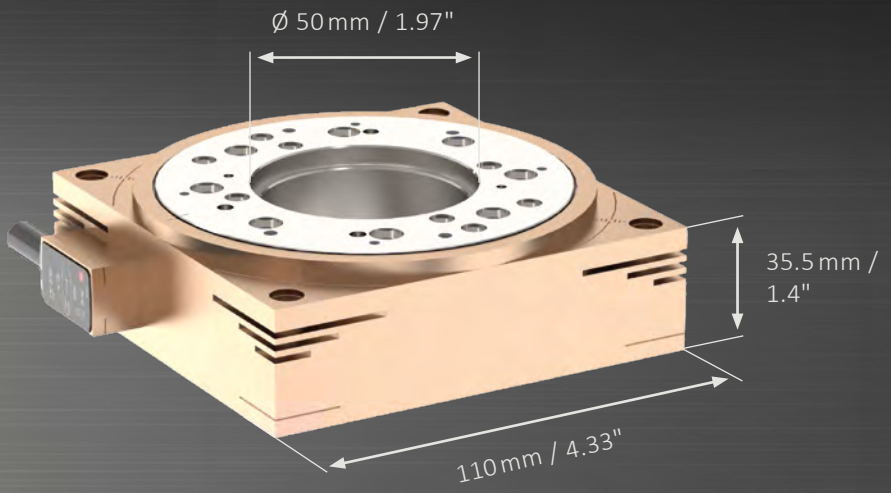
ROTAX® Rxhq 50 Compact hollow shaft motor

Rxhq = high torque

- **Single cable solution**
- Ultra compact dimensions
- Extra large through hollow shaft
- High torque motor – no gear
- Integrated absolute encoder up to 2 592 000 Inc/rev
- Multiturn with XENAX® Xvi 75V8S
- Safety integrity level 2, PL d, Cat. 3 using XENAX® servo controller

ROTAX®	Length [mm] (in)	Dimensions W x H [mm] (in)	Hollow shaft opening [mm] (in)	Weight [g] (lbs)
Rxhq 50-12T0.3	50 (1.97)	50 x 55 (1.97 x 2.17)	12 (0.47)	440 (0.97)

Encoder absolute [Inc/rev]	Position Accuracy [arc-sec] Unidirect. | Bidirect.		Vmax 24V [rpm]	Vmax 48V [rpm]	Torque Mn / Mp [Nm] (lbf in)
162 000	+/- 2	+/- 10	500	1300	0.29/1.02 (2.57/9.03)
2 592 000	+/- 0.5	+/- 1	200		



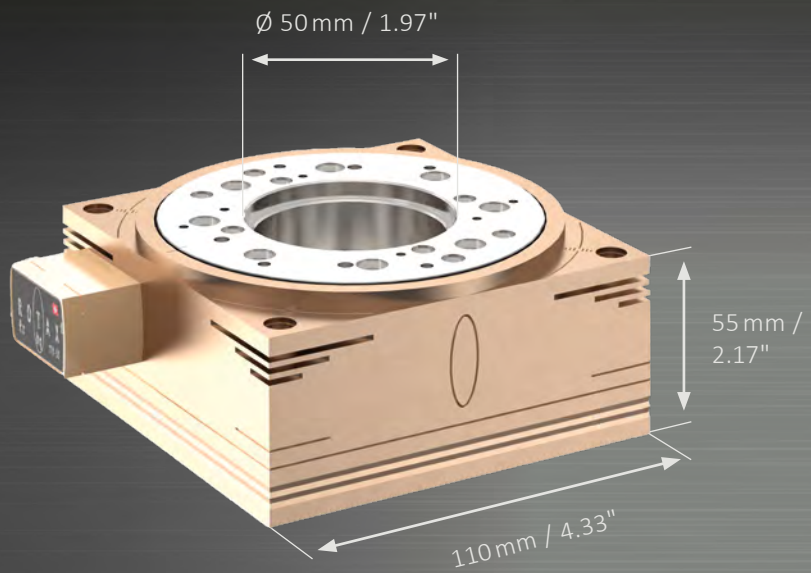
ROTAX® Rxhq 110-50T1.5 Compact hollow shaft motor

Rxhq = high torque

- **Single cable solution**
- Ultra compact dimensions
- Extra large through hollow shaft
- High torque motor – no gear
- Integrated absolute encoder up to 2 592 000 Inc/rev
- Multiturn with XENAX® Xvi 75V8S
- Safety integrity level 2, PL d, Cat. 3 using XENAX® servo controller

ROTAX®	Length [mm] (in)	Dimensions W x H [mm] (in)	Hollow shaft opening [mm] (in)	Weight [g] (lbs)
Rxhq 110-50T1.5	110 (4.33)	110 x 35.5 (4.33 x 1.4)	50 (1.97)	1200 (2.65)

Encoder absolute [Inc/rev]	Position Accuracy [arc-sec] Unidirect. | Bidirect.		Vmax 24V [rpm]	Vmax 48V [rpm]	Torque Mn / Mp [Nm] (lbf in)
648 000	+/- 2	+/- 4	300	600	1.5/4.0 (13.28/37.17)
2 592 000	+/- 0.5	+/- 1	200		



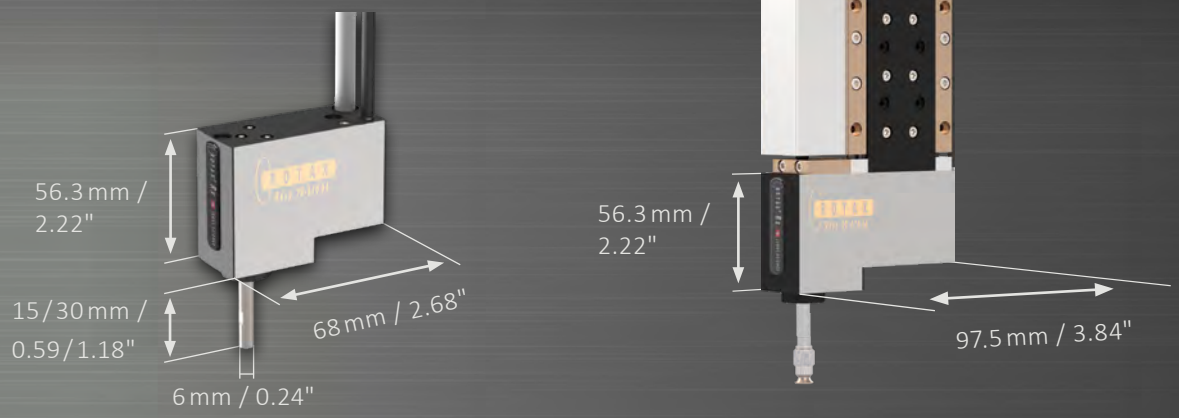
ROTAX® Rxhq 110-50T4.0 Compact hollow shaft motor

Rxhq = high torque

- **Single cable solution**
- Ultra compact dimensions
- Extra large through hollow shaft
- High torque motor – no gear
- Integrated absolute encoder up to 2 592 000 Inc/rev
- Multiturn with XENAX® Xvi 75V8S
- Safety integrity level 2, PL d, Cat. 3 using XENAX® servo controller

ROTAX®	Length [mm] (in)	Dimensions W x H [mm] (in)	Hollow shaft opening [mm] (in)	Weight [g] (lbs)
Rxhq 110-50T4.0	110 (4.33)	110 x 55 (4.33 x 2.17)	50 (1.97)	2250 (4.96)

Encoder absolute [Inc/rev]	Position Accuracy [arc-sec] Unidirect. | Bidirect.		Vmax 24 V [rpm]	Vmax 48 V [rpm]	Vmax 72 V [rpm]	Torque Mn / Mp [Nm] (lbf in)
648 000	+/- 2	+/- 4	180	420	650	4.0/12.0 (35.4/106.2)
2 592 000	+/- 0.5	+/- 1	200			



ROTAX® Rxvp Rotary motor axes

Rxvp = vacuum pressure

- **Single cable solution**
- Rotary motor axis with vacuum/compressed air feedthrough
- Direct mounting on the ELAX® front flange
- High level of accuracy and robustness

ROTAX®	Position Accuracy [arc-sec]	
Rxvp	Unidirect. +/- 12	Bidirect. +/- 20

ROTAX®	Vmax [rpm]	Torque Mn/Mp [mNm] (lbf in)	Encoder incremental	Wiring
Rxvp 28-6T0.04	1500	40/110 (0.35/0.97)	64000 Inc/rev 360° endless rot.	One cable connection

ROTAX®	Shaft [mm] (in)	Length [mm] (in)	Dimensions W x H [mm] (in)	Weight Total Shaft 15/30 mm(0.59/1.18 in) [g] (lbs)
Rxvp 28-6T0.04	ø 6 x 15/ø 6 x 30 (ø 0.24 x 0.59/ø 0.24 x 1.18)	68 (2.68)	27.5 x 56.3 (1.08 x 2.22)	325/330 (0.71/0.72)
Rxvp 28-6T0.04[1)]	ø 6 x 15/ø 6 x 30 (ø 0.24 x 0.59/ø 0.24 x 1.18)	97.5 (3.84)	27.5 x 56.3 (1.08 x 2.22)	345/350 (0.76/0.77)

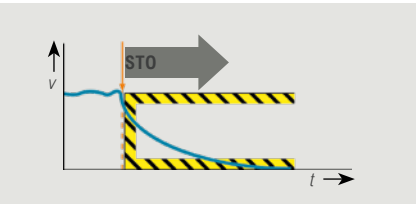
[1)] longer version for fitting to an ELAX® Ex F20 axis with weight compensation

Safety Motion Unit (SMU)

The optional SMU module extends the XENAX® Xvi 75V8S servo controller by TÜV certified safety functions (Safety Integrity Level 2, PL d, Cat. 3). The SMU modules are mounted and tested strictly in accordance with TÜV specifications, so that all safety functions can be guaranteed.

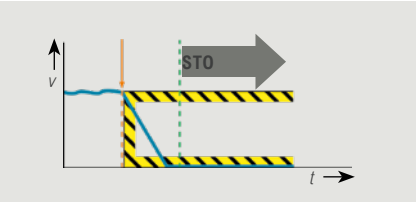
STO: Safe Torque Off

The STO function is the most common and basic drive-integrated safety function. It ensures that no torque-generating energy can continue to act upon a motor.



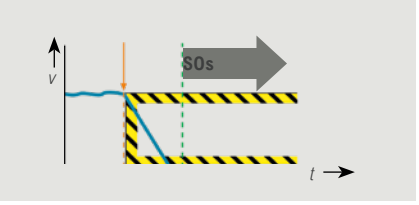
SS1: Safe Stop 1

The SS1 function causes a motor to stop rapidly and safely and switches the motor to exert no torque at all after coming to a standstill, i.e. STO is activated.



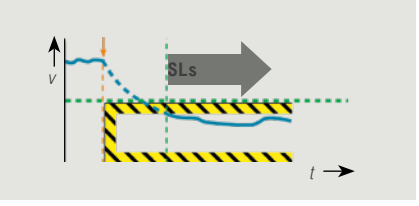
SS2: Safe Stop 2

The SS2 function shuts down a motor quickly and safely and then activates the SOS function after coming to a standstill. With the SOS function, the stopped motor is brought into position and monitored by a drive control.



SLS: Safely-Limited Speed

The SLS function ensures that the drive does not exceed a defined speed limit.



PLC Bus communication

The XENAX® Xvi servo controllers can be operated via bus module with all market-leading PLC controls in real time. Libraries with application examples are available for the two practice-relevant operating modes, «profile positioning mode» and «cyclic synchronized positioning mode».

Programmable Logic Controller (PLC)

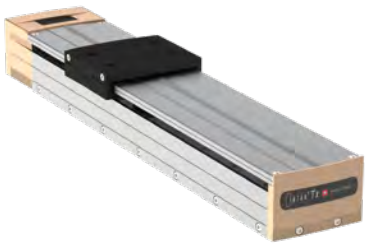
SIEMENS
BECKHOFF
B&R
Schneider Electric
OMRON
CODESYS
Rockwell Automation Allen-Bradley
LabVIEW

Bus Systems

EtherCAT®
EtherNet/IP ODVA
CANopen®
PROFINET® INDUSTRIAL ETHERNET IRT (Isochrone Real Time)
Ethernet TCP/IP
ETHERNET POWERLINK

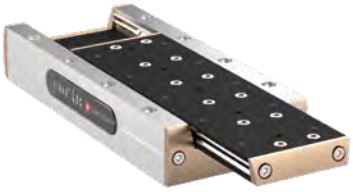
Servo Drives

Integrated Linear Motor



Linear/ Rotary motor axes

Fraunhofer IPA
TESTED® DEVICE
Jenny Science AG
Linax Lx 85F10R
Report No. JE 0910-497



LINAX® Linear motor axes **in clean room standards**

Cleanroom conditions according to ISO 14644-1

· assembly is completed in a certified cleanroom (Class 7)
· type of airflow: non laminar flow

LINAX® Linear motor axes (cross roll guides)	**Slow**	**Typical**	**Fast**
Velocity [m/s]	0.1	0.5	2.0
Accelerance [m/s²]	1.0	10.0	20.0
Air Cleanliness Class (according to ISO 14644-1)	**3**	**5**	**5**

LINAX® Linear motor axes (recirculating ball bearing guides)	**Slow**	**Typical**	**Fast**
Velocity [m/s]	0.1	0.5	2.0
Accelerance [m/s²]	1.0	10.0	20.0
Air Cleanliness Class (according to ISO 14644-1)	**4**	**4**	**5**

Forceteq® basic

Current-based force control with autonomous calibration

Forceteq® Basic offers a current-based force measurement technology that is seamlessly integrated into the XENAX® Xvi servo controller. No external sensors are required, enabling real-time monitoring and recording of force-displacement diagrams, leading to improved production quality and higher throughput.

Product Features

- **Integration:**
  Fully integrated into the XENAX® Xvi servo controller.

- **Calibration:**
  Self-calibrating motor, no external force sensors required.

- **Compatibility:**
  Suitable for all Jenny Science linear and rotary motor axes.

- **Programming:**
  Up to 10 force sectors programmable via Web-Motion®.

- **Measurement Range:**
  0.5 – 180N

Benefits

- **Quality Control:**
  Recording and logging of quality-relevant force-displacement diagrams.

- **Efficiency:**
  Immediate detection of errors and deviations, resulting in better quality and higher throughput.

- **Space Saving:**
  No additional inspection stations required.

Forceteq® pro

Precise force control has never been easier

Forceteq® Pro enables precise force measurements and control through the simple integration of standard strain gauge load cell with the Signateq® measuring amplifier. The high accuracy and efficiency of this technology save costs and improve production processes, eliminating the need for external evaluation electronics.

Product Features

· **Easy Integration:**
The Signateq® measuring amplifier allows the connection of commercially available strain gauge load cells from Burster, Kistler, or Futek and the adjustment of sensitivity.

· **High Precision:**
Excellent linearity and accuracy of the strain gauge load cells with ≤ 0.5% precision.

· **Closed-loop force controller:**
Force data is integrated into the XENAX® control loop and can be cyclically read by the PLC with a cycle time of up to 200µs. This enables continuous and timely monitoring as well as immediate response to changes.

Installation

· **Connect Sensor:**
Solder four wires of the strain gauge load cell to the Signateq® measuring amplifier.

· **Adjust Settings:**
Enter the sensitivity value of the load cell in the «Load Cell» menu of the XENAX® Xvi 75V8S servo controller.

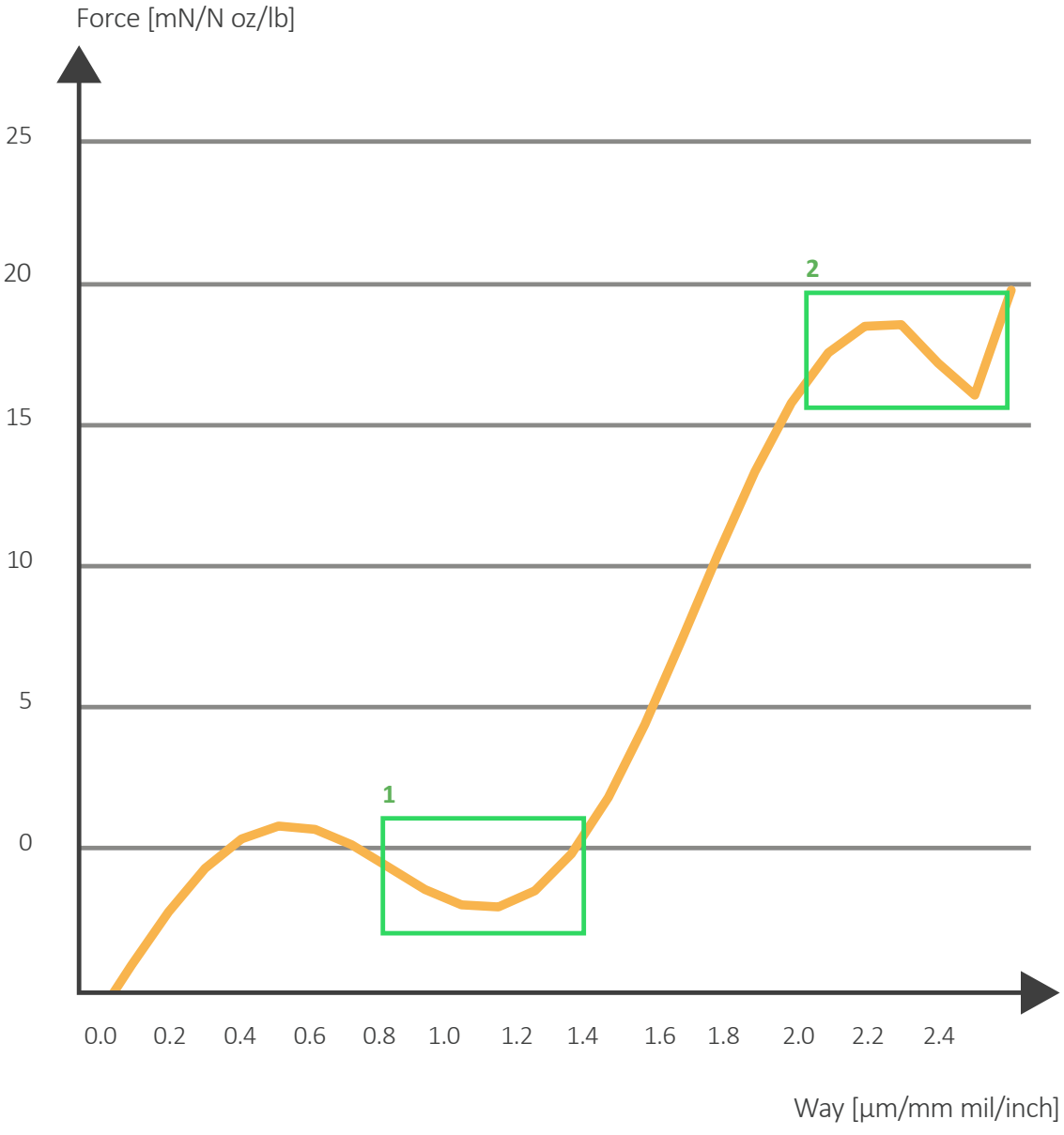
· **Calibration:**
Simply integrate calibration values from the sensor data-sheet or determine and input your own values and you`re done.

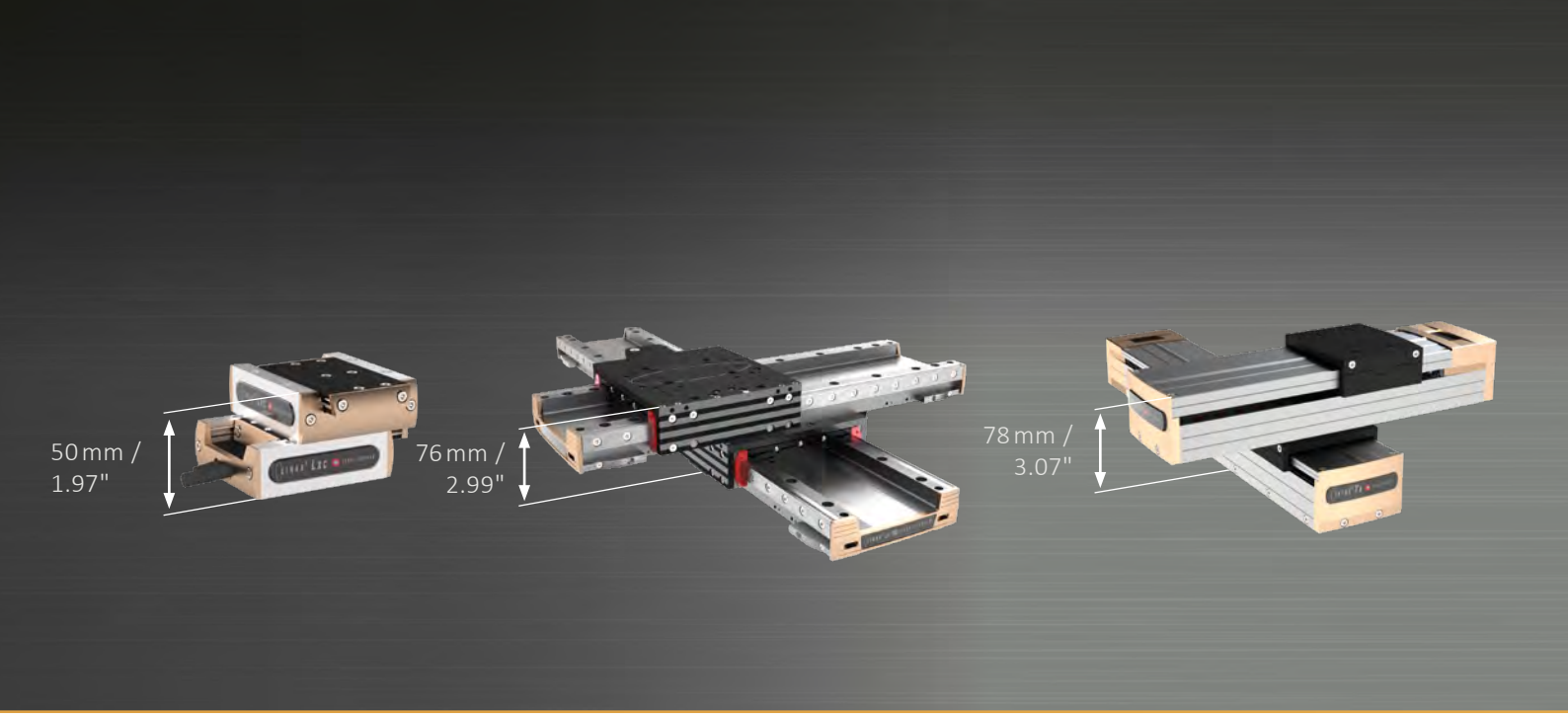
Benefits

· **Efficient Production:**
Direct force measurement in the XENAX® servo controller enables the shortest cycle times.

· **Cost Savings:**
No external evaluation electronics required and direct integration into the PLC cycle for real-time monitoring and control.

· **Force Control:**
Enables precise force control and measurement in the mN range during the production process.



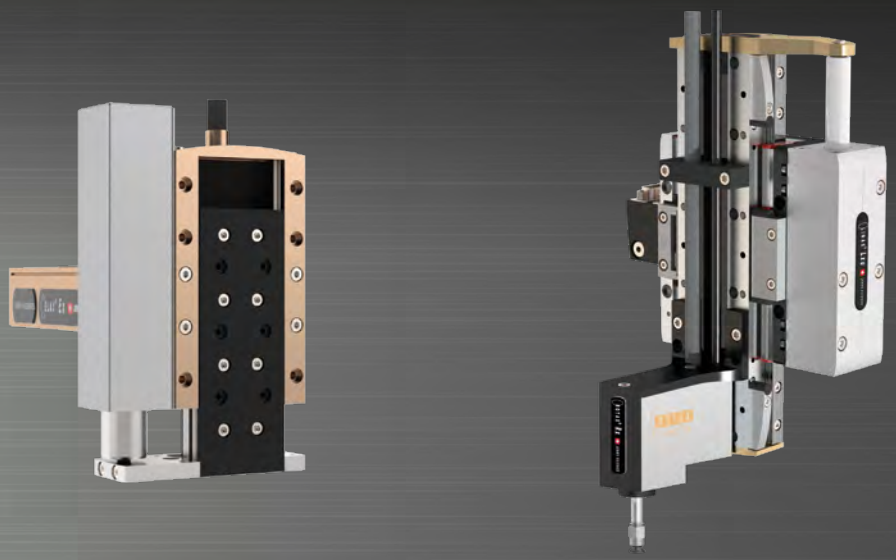


X-Y Cross table

LINAX® Lxs · LINAX® Lxc · INTAX® Tx

· Extremely low overall height
· Flatness of the whole area measurable and adjustable to < 10 µm

Arrangement	Axes	Function
X-Y LINAX®	1× LINAX® Lxc 44F08 1× LINAX® Lxc 44F08	X-axis Y-axis
X-Y LINAX®	1× LINAX® Lxs 400F60S 1× LINAX® Lxs 320F60S	X-axis Y-axis
X-Y INTAX®	1 × INTAX® Tx 100F08 1 × INTAX® Tx 100F08	X-axis Y-axis

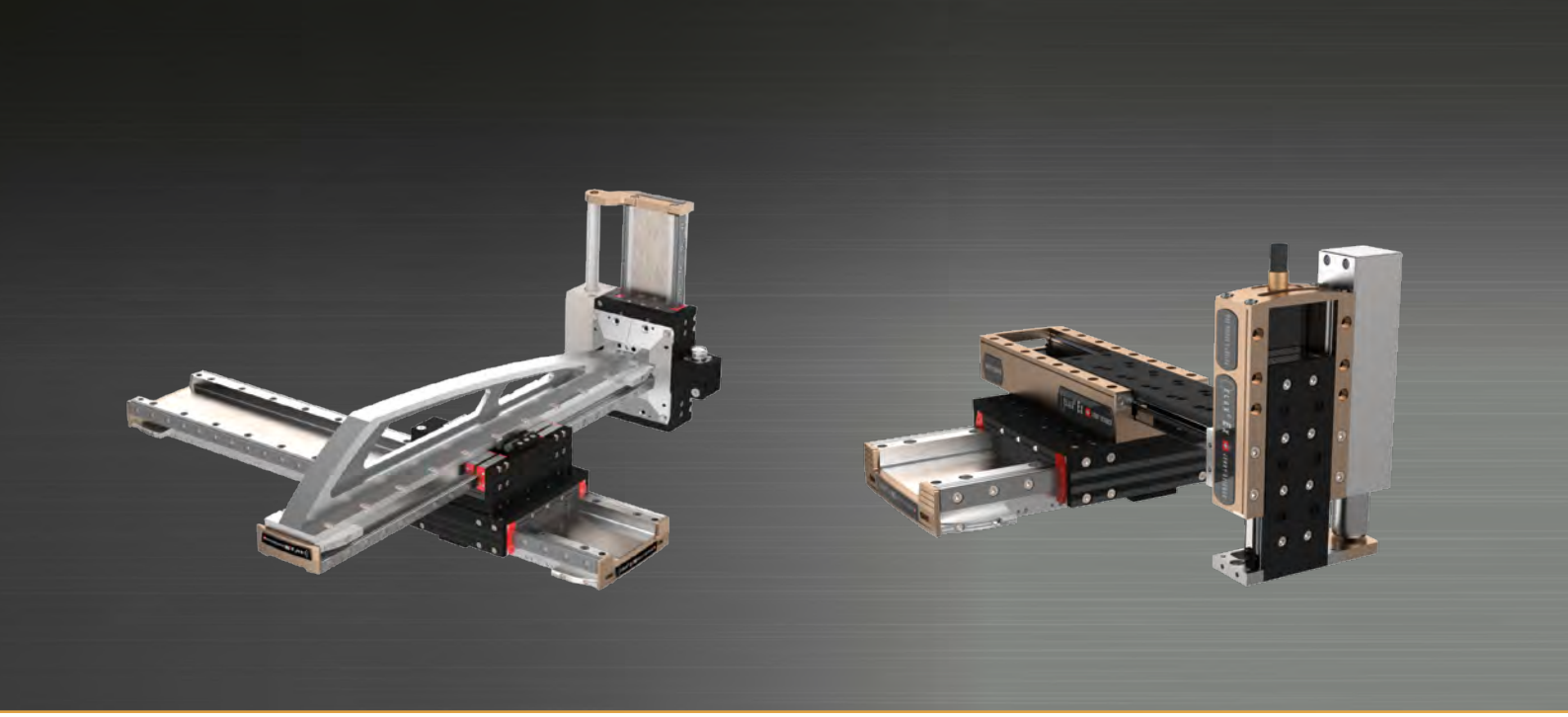


Y-Z Pick and Place · **Z-R** Handling

ELAX® Ex · LINAX® Lxu · ROTAX® Rxvp

· Vertical axis with weight compensation
· With ELAX® adjustable with selection of spring assembly and with LINAX® adjustable with compressed air

Arrangement	Axes	Function
Y-Z flat	1× ELAX® Ex 30F20 1× ELAX® Ex 30F20 1× Weight comp. Ex 30F20 (0-2kg pull or push)	Y-axis – horizontal, flat Z-axis – vertical Compensation of payload
Z-R	1× LINAX® Lxu 80F60S 1× ROTAX® Rxvp 28-6T0.04 1× Weight comp. Lxu 80F60S (0-6kg)	Z-axis – vertical R-axis – rotative, vertical Compensation of payload



X-Y-Z 3D Handling

LINAX® Lxs / Lxu · ELAX® Ex

- Consistent high level of accuracy thanks to low-maintenance and wear-free linear motor axes
- Flexible dimensions selectable according to the size and weight of the product

Arrangement	Axes	Function
X-Y-Z flat	1× LINAX® Lxs 520F60S 1× LINAX® Lxu 320F60S 1× Cantilever armour to LINAX® Lxu 320F60S 1× LINAX® Lxu 80F60S 1× Weight comp. Lxu 80F60S (0-6kg)	X-axis – horizontal, flat Y-axis – horizontal, flat Reinforcement of Y-axis Z-axis – vertical Compensation of payload
X-Y-Z with ELAX®	1× LINAX® Lxu 520F60S 1× ELAX® Ex 80F20 1× ELAX® Ex 50F20 1× Weight comp. Ex 50F20 (0-2kg pull or push)	X-axis – horizontal, flat Y-axis – horizontal, flat Z-axis – vertical Compensation of payload

R-Y-Z-R Pick and Place

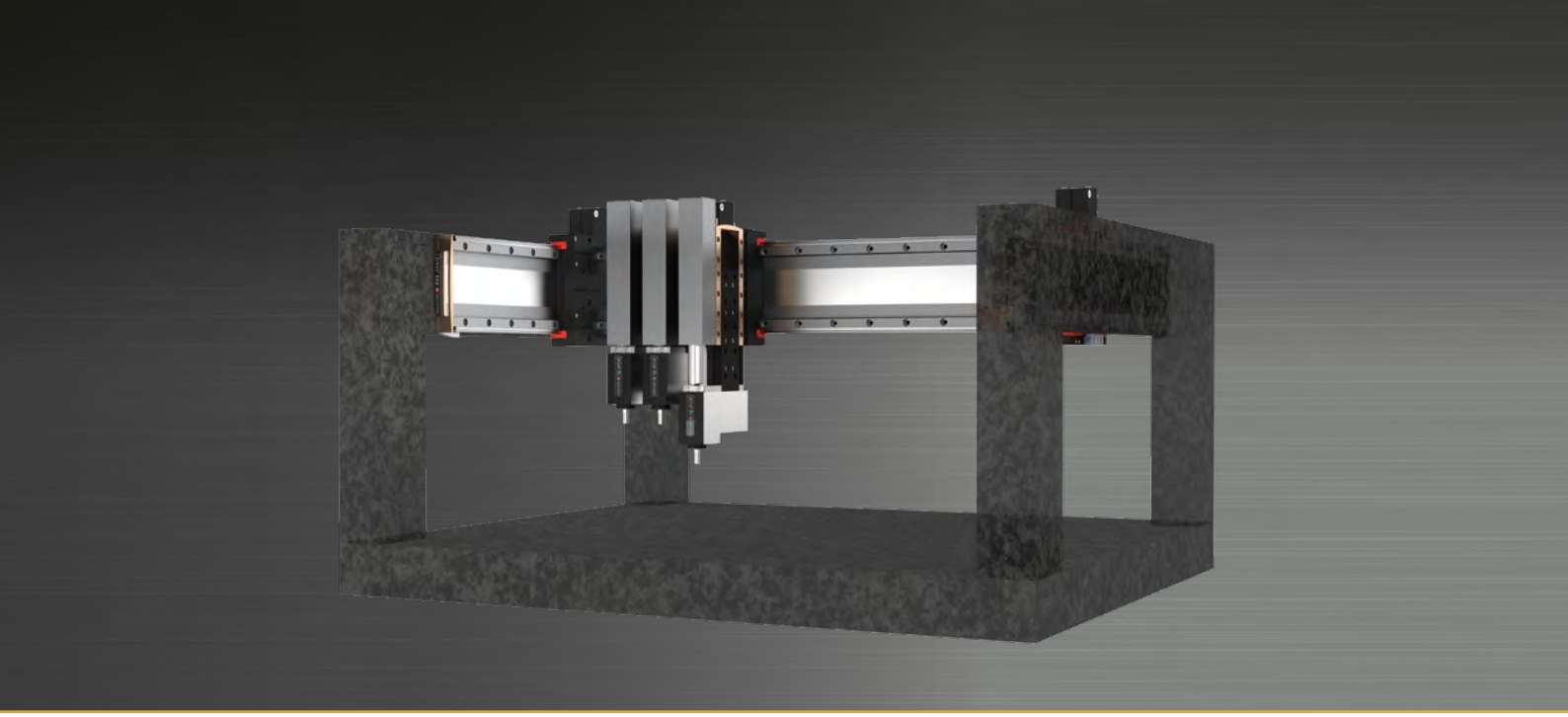
ELAX® Ex · ROTAX® Rxhq

· Front flange on the slider is ideal for modular systems
· Sophisticated, vertical cable and tube feedthrough for ROTAX® rotary motor axes

Arrangement	Axes	Function
R-Y-Z-R upright	1× ROTAX® Rxhq 110-50T4.0 1× ELAX® Ex 80F20 1× ELAX® Ex 30F20 1× Weight comp. Ex 30F20 (0-2kg pull or push) 1x ROTAX® Rxhq 50-12T0.3	R-axis – rotative, vertical Y-axis – horizontal, flat Z-axis – vertical Compensation of payload R-axis – rotative, vertical

Weight Compensation

If the linear motor axis is used vertically, the slider should not fall when the power is switched off. Vertical weight compensation packages using compressed air or springs are available.

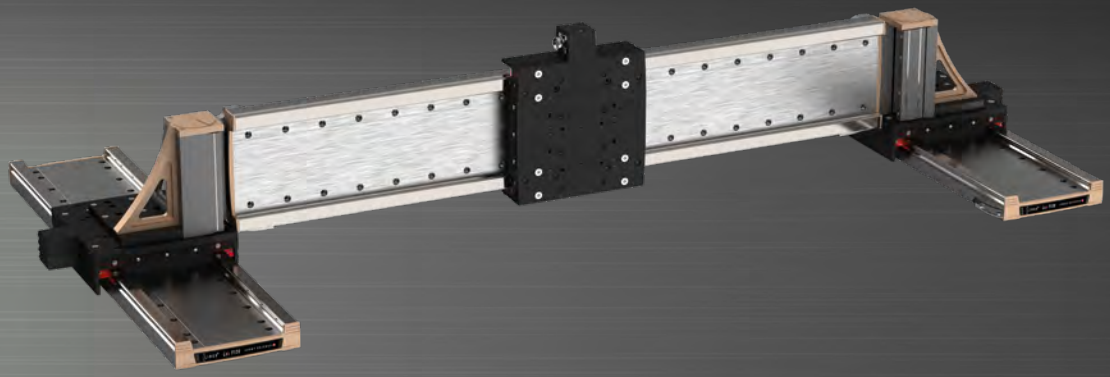


X-Y-Z-R Gantry

LINAX® Lxs · ELAX® Ex · ROTAX® Rxvp

· The Y-axes are arranged in an upright position, leading to minimal space requirement in relation to the strokes.

Arrangement	Axes	Function
X-Y-Z-R upright	1 x LINAX® Lxs 400F60S 2 x LINAX® Lxs 520F60S 3 x ELAX® Ex 50F20 3 x ROTAX® Rxvp 28-6T0.04 3 × Weight comp. Ex 50F20 (0-2kg pull or push)	X-axis Y-axis (Gantry) Z-axis R-axis Compensation of payload



Gantry

Components with Patented, Backlashfree Joint Bearing Technology

Simple Setup

· **Pre-Assembled Bearing Joints:**
Quick and easy assembly saves time and costs.

· **Main to Sub Position Adjustment:**
Precise adjustment of the gantry structure is achieved by offsetting the SUB-Axis position to the MAIN-Axis position in the XENAX® servo controller with a resolution of 1µm.

Technological Highlights

· **Backlashfree Rotary and Linear Joints:**
Maximum precision and flexibility for both MAIN- and SUB-Axis.

· **No Stress:**
Safe operation even with non-perfectly parallel installation.

Carbon Fiber Carrier for High Precision in Temperature Variations

· **High Torsional Forces**
Reduces deformation of the aluminum base plate during temperature fluctuations, ensuring constant precision.

· **Lightweight Design:**
Shorter machine cycle times due to reduced weight.

Customer Benefits

· **Cost Efficiency:**
No need for complete systems; custom setups with our components are possible.

· **Time Savings:**
Easy installation and quick commissioning.

· **Highest Precision:**
Consistently accurate results, even with temperature fluctuations.

· **Efficiency Increase:**
Faster production processes due to lighter components.

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